



PATTERN CERTIFICATION

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PATTERN CERTIFICATION

Method of Measurement

The azimuth pattern for “**WALC**”, Dielectric Document Sketch #16, was measured in the following manner.

A single 4.4 to 1 scale model “**DCRC6E5D**” bay radiator was mounted on a similarly scaled model of the tower according to information provided to Dielectric by the customer; refer to Dielectric Document Sketch #16. The antenna under test, all parasitics, all known tower appurtenances, and the tower section were rotated through 360 degrees while receiving a signal at the appropriate frequency from a linear cavity-backed source antenna. Both the horizontal and vertical polarization azimuth patterns were measured in an anechoic test range.

The transmit and scale model antennas are mounted at identical elevations and at opposite ends of the chamber. A Hewlett Packard model 8752C network analyzer was used to supply the RF signal to the source antenna at 4.4 times the fundamental FM frequency and to receive the signal intercepted by the antenna under test. The received signal was converted to a relative level, referenced to the source. This level was stored on a computer acting as the master controller. The computer controls the measurement system via IEEE-488 control bus through a GPIB card.

Statement of Qualifications

Keith L. Pelletier is a Senior Electrical Engineer here at Dielectric. He received a BS in Electrical Engineering Technology from the University of Maine in 1998. He has over 6 years experience in RF antenna engineering and has been employed by Dielectric Communications since 1997.

Signed By: _____

Date: _____



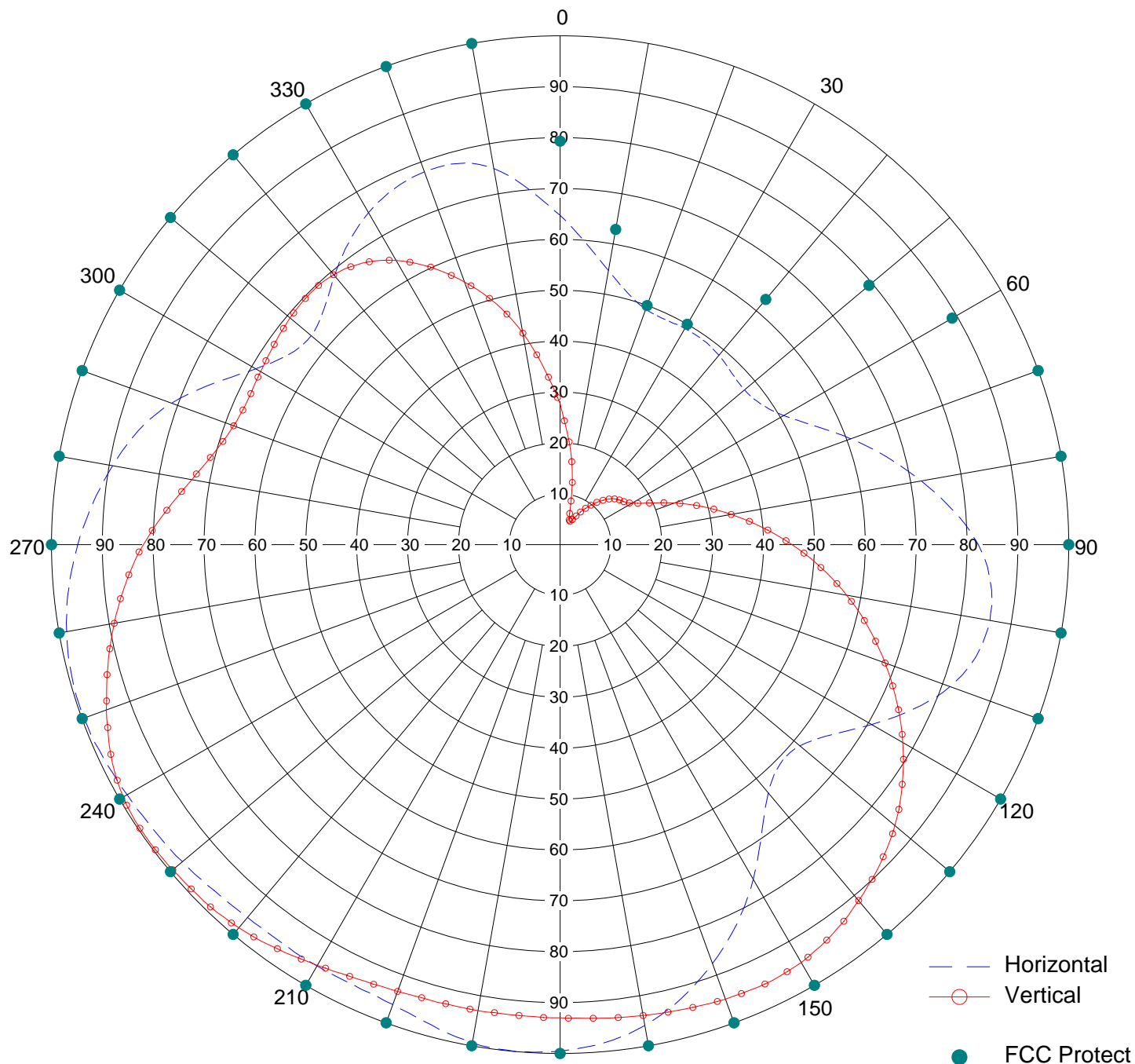
Proposal Number **C-01795**
Date **Sep 27, 2007**
Call Letters **WALC**
Location **Charleston, SC**
Customer **Clear Channel**
Antenna Type **DCRC6E5D**

AZIMUTH PATTERN

86.2% Ccov - 52.6% Hrms - 47.4% Vrms

Gain **1.6 (2.04) HPOL 1.95 (2.9) VPOL**
Calculated / Measured **Measured**

Frequency **100.5 MHz**
Drawing # **16**



Remarks:

WALC leg mounted with 1 horizontal parasitic



Proposal Number **C-01795**
Date **3-Oct-07**
Call Letters **WALC**
Location **Charleston, SC**
Customer **Clear Channel**
Antenna Type **DCRC6E5D**
Frequency **100.50 MHz**
Drawing #: **16**

TABULATION OF HORIZONTAL AZIMUTH PATTERN

Angle	Field	dBk	ERP kW
0	0.647	7.521	5.651
10	0.547	6.063	4.039
20	0.493	5.160	3.281
30	0.490	5.107	3.241
40	0.486	5.036	3.189
50	0.473	4.801	3.020
60	0.508	5.421	3.484
70	0.608	6.981	4.990
80	0.721	8.462	7.018
90	0.822	9.601	9.122
100	0.858	9.973	9.938
110	0.816	9.537	8.989
120	0.707	8.292	6.748
130	0.615	7.081	5.106
140	0.637	7.386	5.478
150	0.759	8.908	7.777
160	0.876	10.153	10.360
170	0.959	10.940	12.416
180	0.995	11.260	13.365
190	0.994	11.251	13.338
200	0.962	10.967	12.493
210	0.956	10.912	12.338
220	0.956	10.912	12.338
230	0.969	11.030	12.676
240	0.983	11.154	13.045
250	0.997	11.277	13.419
260	0.985	11.172	13.098
270	0.948	10.840	12.133
280	0.893	10.320	10.766
290	0.813	9.505	8.923
300	0.691	8.093	6.446
310	0.639	7.413	5.512
320	0.690	8.080	6.427
330	0.753	8.839	7.655
340	0.780	9.145	8.213
350	0.751	8.816	7.614



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Drawing #: **16**

TABULATION OF VERTICAL AZIMUTH PATTERN

Angle	Field	dBk	ERP kW
0	0.277	0.153	1.036
10	0.138	-5.899	0.257
20	0.052	-14.377	0.037
30	0.068	-12.046	0.062
40	0.106	-8.191	0.152
50	0.140	-5.774	0.265
60	0.163	-4.453	0.359
70	0.239	-1.129	0.771
80	0.342	1.984	1.579
90	0.456	4.483	2.807
100	0.572	6.451	4.417
110	0.680	7.954	6.242
120	0.778	9.123	8.171
130	0.859	9.983	9.961
140	0.913	10.513	11.253
150	0.948	10.840	12.133
160	0.950	10.858	12.184
170	0.940	10.766	11.929
180	0.930	10.673	11.676
190	0.930	10.673	11.676
200	0.934	10.710	11.777
210	0.955	10.903	12.312
220	0.983	11.154	13.045
230	0.994	11.251	13.338
240	0.992	11.234	13.285
250	0.949	10.849	12.158
260	0.890	10.291	10.693
270	0.819	9.569	9.055
280	0.735	8.629	7.293
290	0.683	7.992	6.298
300	0.680	7.954	6.242
310	0.693	8.118	6.483
320	0.693	8.118	6.483
330	0.645	7.495	5.616
340	0.549	6.095	4.069
350	0.422	3.810	2.404



Proposal Number	C-01795	Revision:	1
Date	Oct 03, 2007		
Call Letters	WALC		
Location	Charleston, SC		
Customer	Clear Channel		
Antenna Type	DCRC6E5D		

COMPOSITE AZIMUTH PATTERN

Calculated / Measured

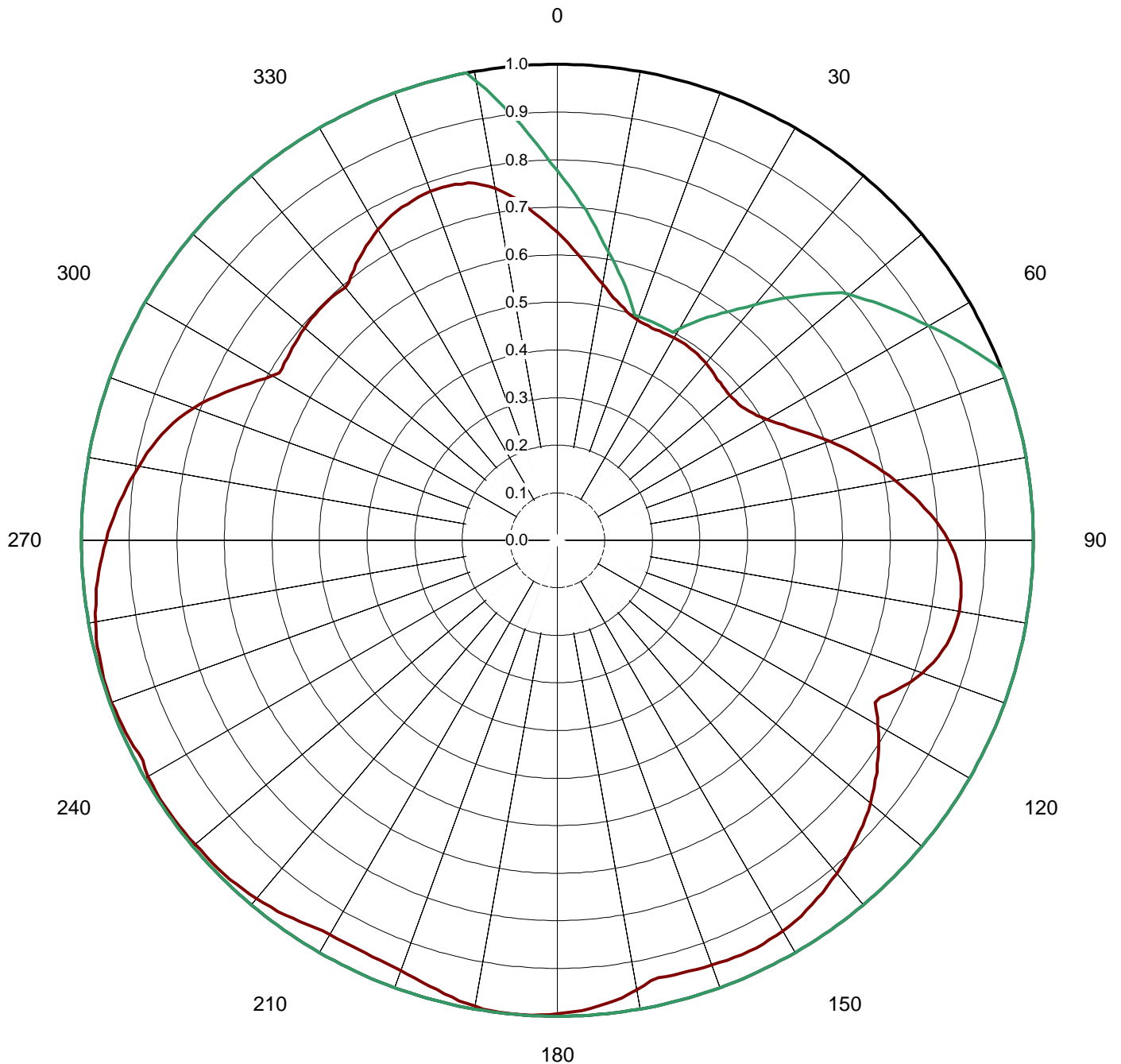
Measured

Frequency

100.50 MHz

Drawing #

16





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Location	Charleston, SC
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Frequency	100.50 MHz
Drawing #:	16

TABULATION OF COMPOSITE AZIMUTH PATTERN

Angle	Field	dBk	Power kW	Input Power
0	0.647	7.521	5.651	13.500
10	0.547	6.063	4.039	13.500
20	0.493	5.160	3.281	13.500
30	0.490	5.107	3.241	13.500
40	0.486	5.036	3.189	13.500
50	0.473	4.801	3.020	13.500
60	0.508	5.421	3.484	13.500
70	0.608	6.981	4.990	13.500
80	0.721	8.462	7.018	13.500
90	0.822	9.601	9.122	13.500
100	0.858	9.973	9.938	13.500
110	0.816	9.537	8.989	13.500
120	0.778	9.123	8.171	13.500
130	0.859	9.983	9.961	13.500
140	0.913	10.513	11.253	13.500
150	0.948	10.840	12.133	13.500
160	0.950	10.858	12.184	13.500
170	0.959	10.940	12.416	13.500
180	0.995	11.260	13.365	13.500
190	0.994	11.251	13.338	13.500
200	0.962	10.967	12.493	13.500
210	0.956	10.912	12.338	13.500
220	0.983	11.154	13.045	13.500
230	0.994	11.251	13.338	13.500
240	0.992	11.234	13.285	13.500
250	0.997	11.277	13.419	13.500
260	0.985	11.172	13.098	13.500
270	0.948	10.840	12.133	13.500
280	0.893	10.320	10.766	13.500
290	0.813	9.505	8.923	13.500
300	0.691	8.093	6.446	13.500
310	0.693	8.118	6.483	13.500
320	0.693	8.118	6.483	13.500
330	0.753	8.839	7.655	13.500
340	0.780	9.145	8.213	13.500
350	0.751	8.816	7.614	13.500



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CUSTOMER GAIN SUMMARY

Azimuth Pattern Gain of Horizontal Polarization	1.60	(2.04 dB)
Elevation Pattern Gain Per Polarization	1.80	(2.55 dB)
Peak Gain at Horizontal Polarization	2.88	(4.59 dB)

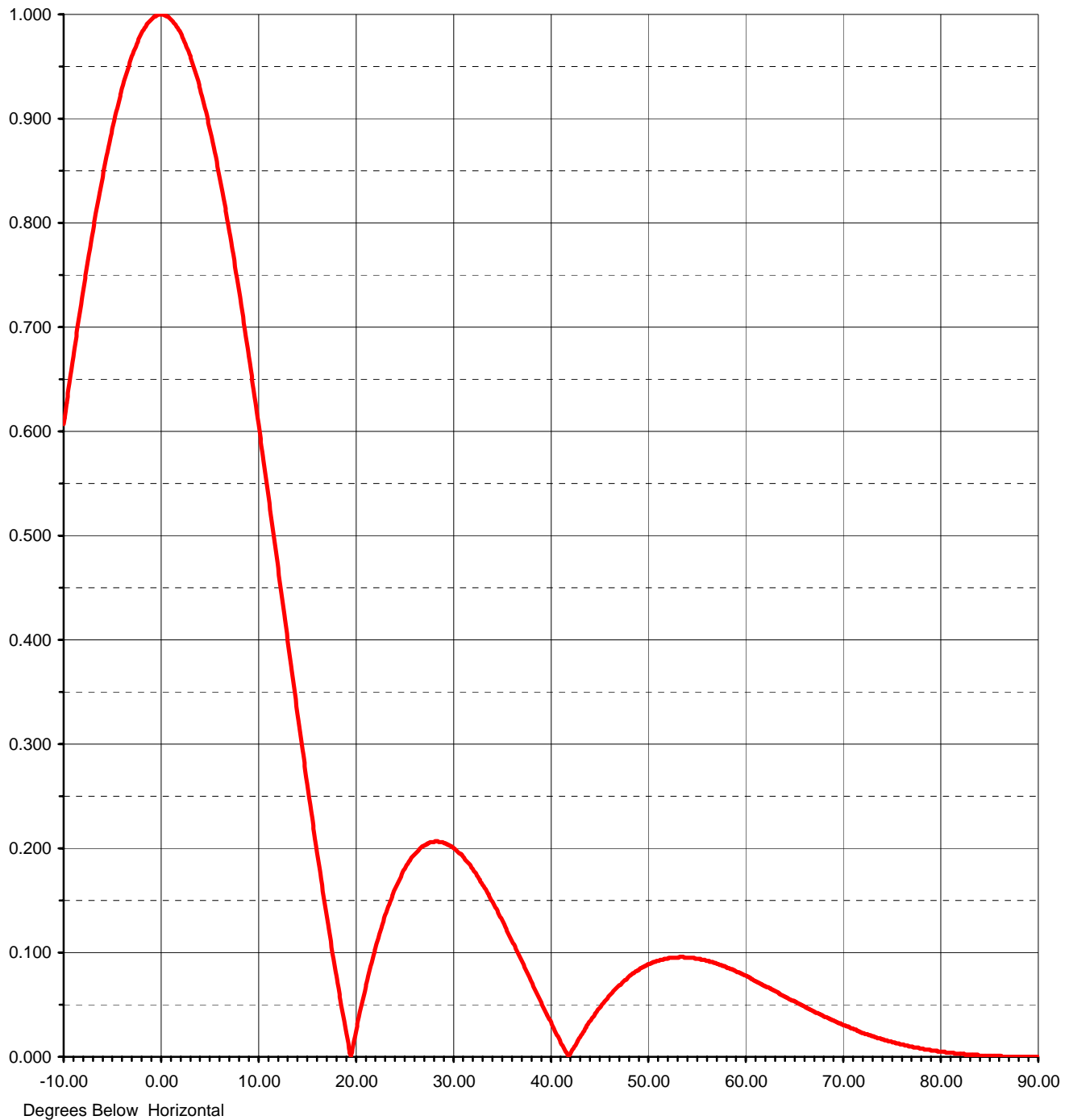


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Antenna Type **DCRC6E5D**
Drawing #

ELEVATION PATTERN

RMS Gain at Main Lobe **1.80 (2.55 dB)**
Per Polarization
Calculated / Measured **Calculated**

Beam Tilt **0.00 deg**
Frequency **100.50 MHz**



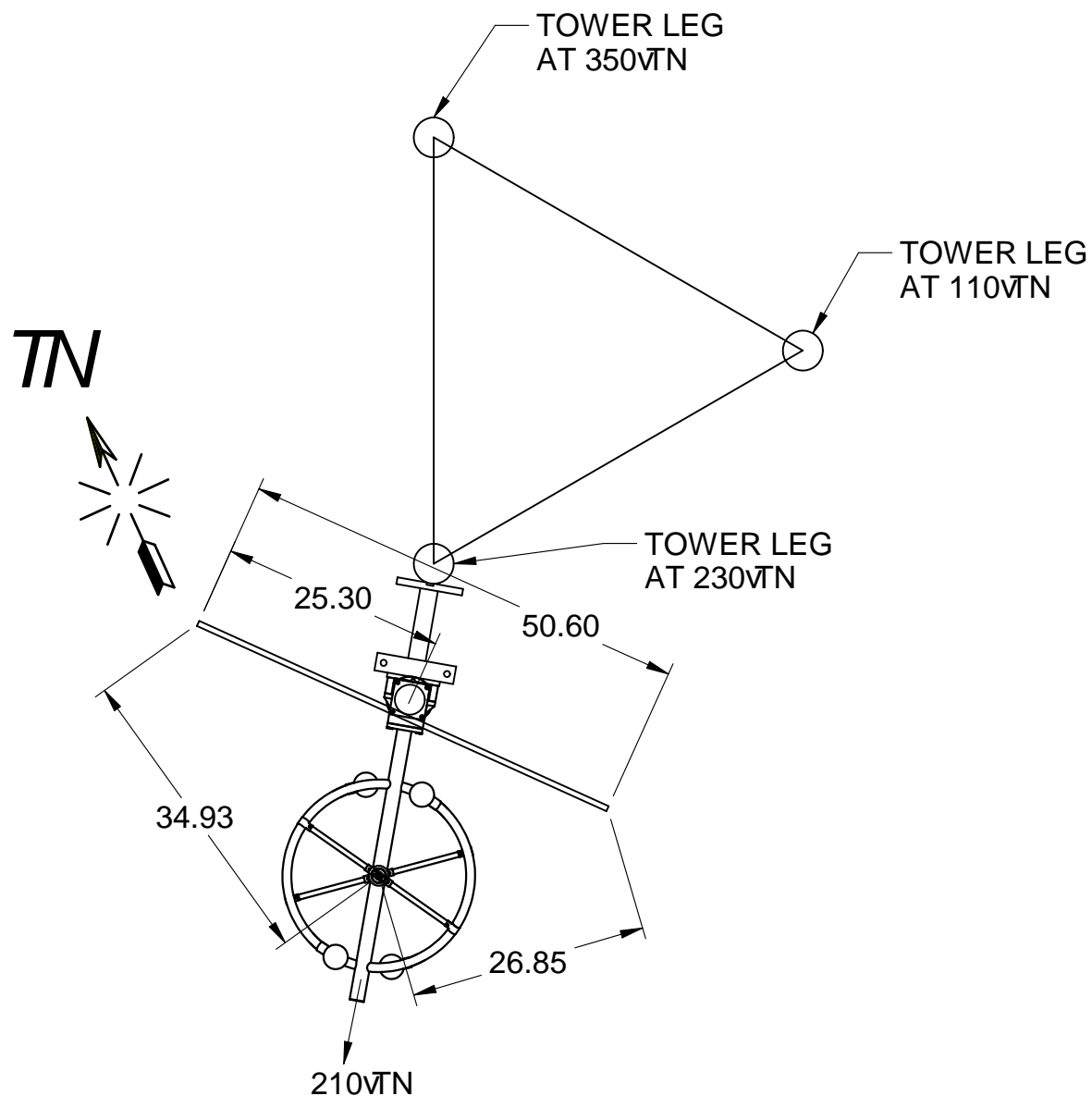
REV:

REVISION NOTE

CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.

A

SEE SHEET #1



WALC 100.5 MHz
D REDFIELD 10/03/07

A Unit of SPX Corporation Error: No reference

GAGE CODE

DRAWING NO:

A

08441

PATTERN_SKETCH_1

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SHEET: 1 OF 1